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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Hirotake NOZAKI et al.

Application No. New U.S. National Stage of PCT/JP03/00134

Filed: July 9, 2004 Docket No.: 120335

For: DIGITAL CAMERA

TRANSLATION OF THE AMENDMENTS
UNDER PCT ARTICLE 19 (35 USC 371(c)(3))

Commissioner for Patents
P.O. Box 1450
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Sir:

Attached hereto is a translation of the amendments of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)). The attached translated material replaces the claims.

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Replaced by Art 19 Amdment.

WHAT IS CLAIMED IS:

1. A digital camera comprising:

an insertion port into which a storage medium is inserted;

an imaging device;

a controller that stores an image taken by the imaging device in the storage medium inserted into the insertion port; and

a medium detector that detects if the storage medium inserted into the insertion port is a storage medium limiting overwrite.

2. The digital camera according to claim 1 further comprising:

a display device that displays that the storage medium limiting overwrite is detected by the medium detector.

3. The digital camera according to claim 2, wherein:

the medium detector detects if the storage medium is the storage medium limiting overwrite based upon information entered from the storage medium inserted into the insertion port.

4. The digital camera according to claim 2, wherein:

the insertion port includes a connector device to be

connected to a plurality of connectors of the storage medium to be inserted and

the medium detector detects if the storage medium is the storage medium limiting overwrite based upon a difference in connectors of the storage medium to be connected to the connector device.

5. The digital camera according to claim 2, wherein:

the insertion port includes a detecting device that detects a difference in an external shape of the storage medium to be inserted and

the medium detector detects if the storage medium is the storage medium limiting overwrite based upon a detecting result of the detecting device.

6. The digital camera according to claim 1 further comprising:

a delete disable processing device that lets all images to be stored in the storage medium become unable to be deleted when the medium detector detects that the storage medium limiting overwrite is inserted into the insertion port.

7. The digital camera according to claim 1 further comprising:

a delete instruction device that instructs to delete

an image stored in the storage medium; and

a nullification processing device that nullifies an instruction from the delete instruction device when the medium detector detect that the storage medium limiting overwrite is inserted into the insertion port.

8. The digital camera according to claim 1 further comprising :

a delete disable release instruction device that lets an image to be taken by the imaging device and stored in the storage medium disabled to be deleted become capable of being deleted; and

a nullification processing device that nullifies an instruction from the delete disable release instruction device when the medium detector detects that the storage medium limiting overwrite is inserted into the insertion portion.

9. The digital camera according to claim 1 further comprising:

a display device that displays an executable instruction in the digital camera; and

a display change processing device that changes a display of the display device based upon a kind of the storage medium detected by the medium detector.

10. The digital camera according to claim 9, wherein:

the display device displays the instruction including a delete instruction to delete an image stored in the storage medium and,

when the medium detector detects that the storage medium limiting overwrite is inserted into the insertion port, the display change processing device changes a display of the display device so as not to display the delete instruction.

11. The digital camera according to claim 9 or claim 10, wherein:

the display device displays the instruction including a delete disable release instruction that lets an image to be stored in the storage medium disabled to be deleted become capable of being deleted and,

when the medium detector detects that the storage medium limiting overwrite is inserted into the insertion portion, the display change processing device changes a display of the display device so as not to display the delete disable release instruction.

12. The digital camera according to any one of claim 9 to claim 11, wherein:

when the medium detector detects that the storage medium limiting overwrite is inserted into the insertion port, the

display change processing device changes a display of the display device so as to display a delete instruction dedicated for the storage medium limiting overwrite.

13. The digital camera according to claim 1 further comprising:

a delete instruction device that instructs to delete an image stored in the storage medium; and

a delete method change processing device that changes a method of deleting the image based upon an instruction of the delete instruction device corresponding to a kind of the storage medium detected by the medium detector.

14. The digital camera according to claim 13, wherein:

when the medium detector detects that the storage medium limiting overwrite is inserted into the insertion port and also deletion of the image is instructed by the delete instruction device, the delete method change processing device writes data in a storage area of information about an image to be deleted in the storage medium limiting overwrite.

15. The digital camera according to claim 13 or claim 14, wherein:

when the medium detector detects that the storage medium limiting overwrite is inserted into the insertion port and

also deletion of the image is instructed by the delete instruction device, the delete method change processing device changes management information corresponding to a storage area of information about an image to be deleted in the storage medium limiting overwrite to information indicating a non-vacant area.

16. The digital camera according to claim 1 further comprising:

a delete instruction device that deletes an image stored in the storage medium; and

a pre-announcement information display device that displays pre-announcement information on an image deletion to be performed by the delete instruction device when the medium detector detects that the storage medium limiting overwrite is inserted into insertion port.

17. The digital camera according to claim 16, wherein:

the pre-announcement information display device displays a notification notifying that the image to be deleted by the delete instruction device is unable to be restored.

18. The digital camera according to claim 16 or claim 17, wherein:

the pre-announcement information display device displays a notice notifying that deletion of an image by the

delete instruction device cannot get an increase in storage capacity of the storage medium.

19. The digital camera according to claim 1 further comprising:

a residual capacity detector that detects residual capacity of the storage medium; and

a display device that performs a display prompting to change a storage medium based upon a detecting result of the residual capacity detector when the medium detector detects that the storage medium limiting overwrite is inserted into the insertion port.

20. The digital camera according to claim 1 further comprising:

a delete instruction device that instructs to delete image data stored in the storage medium, wherein:

when the medium detector detects that the storage medium limiting overwrite is inserted into the insertion port, the delete instruction device instructs so as to nullify an image data area of the storage medium limiting overwrite.

21. The digital camera according to claim 1 further comprising:

a delete instruction device that instructs to delete

image data stored in the storage medium; and

a selection device that selects one of a first delete method deleting the image data by nullifying an image data area of the storage medium limiting overwrite and a second delete method assuming that the image data was deleted by changing data management information of the image data when the medium detector detects that the storage medium limiting overwrite is inserted into the insertion port.

22. The digital camera according to claim 20, wherein:

the delete instruction device instructs so as to nullify the image data by overwriting the image data area of the storage medium limiting overwrite with data.

23. The digital camera according to claim 20 or claim 21, wherein:

the medium detector detects if the storage medium inserted into the insertion port is an overwritable storage medium and

the delete instruction device instructs so as to change only data management information corresponding to the image data stored in the overwritable storage medium when the medium detector detects that the overwritable storage medium is inserted into the insertion port.

24. The digital camera according to claim 23, wherein:

the data management information is record position information identifying where to record the image data stored in the storage medium.

25. The digital camera according to claim 20 or claim 21, wherein:

when the medium detector detects that the storage medium limiting overwrite is inserted into the insertion port, the delete instruction device instructs so as to nullify a record area of data management information corresponding to the image data and also record new data management information.

26. The digital camera according to claim 20 or claim 21, wherein:

the delete instruction device instructs so as to nullify at least a portion of the image data area.

27. The digital camera according to claim 20 or claim 21, wherein:

the delete instruction device instructs so as to nullify all of the image data area.

28. The digital camera according to claim 1 further comprising:

a delete instruction device that instructs to delete

image data stored in the storage medium, wherein:

the delete instruction device instructs a different delete method corresponding to a kind of the storage medium detected by the medium detector.

29. The digital camera according to claim 1 further comprising:

a delete instruction device that instructs to delete image data stored in the storage medium; and

a capacity detector that detects memory capacity of the storage medium inserted into the insertion port, wherein:

when the medium detector detects that the storage medium limiting overwrite is inserted into the insertion port, the delete instruction device instructs a different delete method corresponding to memory residual capacity of the storage medium limiting overwrite detected by the capacity detector.

30. The digital camera according to claim 29, wherein:

when the capacity detector detects that the storage medium limiting overwrite has memory residual capacity not enough to record new data management information in the storage medium limiting overwrite, the delete instruction device instructs so as to nullify the image data area.

31. The digital camera according to claim 1 further comprising:

a format instruction device that instructs to format

the storage medium inserted into the insertion port, wherein:

the format instruction device instructs a different format method corresponding to a kind of the storage medium detected by the medium detector.

32. The digital camera according to claim 31 further comprising:

a notification device that notifies that formatting cannot get an increase in capacity when the medium detector detects that the storage medium limiting overwrite is inserted into the insertion port.

33. The digital camera according to claim 1 further comprising:

an optimization processing device that instructs so as to optimize data in the storage medium inserted into the insertion port; and

an optimization processing nullification processing device that nullifies an instruction to process an optimization by the optimization processing device when the medium detector detects that the storage medium limiting overwrite is inserted into the insertion port.

34. An image storage apparatus comprising:

a connecting device that connects to one of a storage medium limiting overwrite and an overwritable storage medium;

an image management setting device that executes independently a first image management setting that manages image data recorded in the storage medium limiting overwrite and a second image management setting that manages image data recorded in the overwritable storage medium; and

a management control device that implements an image management control in accordance with the first image management setting when the storage medium limiting overwrite is connected to the connecting device and that implements an image management control in accordance with the second image management setting when the overwritable storage medium is connected to the connecting device.

35. The image storage apparatus according to claim 34, wherein:

the management control device performs a delete control to delete the image data recorded in the storage medium connected to the connecting device as the image management control.

36. The image storage apparatus according to claim 34 or claim 35 further comprising:

an image storage memory that stores the image data, wherein:

the image management control device includes a storage control to store the image data recorded in the storage medium

connected to the connecting device in the image storage memory as the image management control.

37. The image storage apparatus according to claim 34, wherein:

the image management setting device performs a setting change of the first image management setting and the second image management setting depending upon a kind of the storage medium connected to the connecting device.

38. The image storage apparatus according to claim 37, wherein:

the image management setting device permits to perform a setting change of the first image management setting when the storage medium limiting overwrite is connected to the connecting device and to perform a setting change of the second image management setting when the overwritable storage medium is connected to the connecting device.

39. The image storage apparatus according to claim 34, wherein:

the connecting device is an attachment device that attaches one of the storage medium limiting overwrite and the overwritable storage medium.

40. The image storage apparatus according to claim 34, wherein:

the connecting device connects to one of the storage medium limiting overwrite and the overwritable storage medium

via an apparatus attaching one of the storage medium limiting overwrite and overwritable storage medium to an attachment device.

41. A digital camera comprising:

a connecting device that connects to one of a storage medium limiting overwrite and an overwritable storage medium;

an image management setting device that executes independently a first image management setting that manages image data recorded in the storage medium limiting overwrite and a second image management setting that manages image data recorded in the overwritable storage medium; and

a management control device that implements an image management control in accordance with the first image management setting when the storage medium limiting overwrite is connected to the connecting device and implements an image management control in accordance with the second image management setting when the overwritable storage medium is connected to the connecting device.

42. The digital camera according to claim 41, wherein:

the image management setting device performs a setting change of the first image management setting and the second image management setting depending upon a kind of the storage medium connected to the connecting device.

43. The digital camera according to claim 42, wherein:

the image management setting device permits to perform a setting change of the first image management setting when the storage medium limiting overwrite is connected to the connecting device and permits to perform a setting change of the second image management setting when the overwritable storage medium is connected to the connecting device.

44. A control program comprising following steps executed on a computer:

a step of implementing an image management control in accordance with a first image management setting for managing image data recorded in a storage medium limiting overwrite when the storage medium limiting overwrite is connected to a connecting device connecting to one of the storage medium limiting overwrite and an overwritable storage medium; and

a step of implementing an image management control in accordance with a second image management setting for managing image data recorded in the overwritable storage medium when the overwritable storage medium is connected to the connecting device.

45. An image storage apparatus comprising:

a connecting device that connects to a storage medium

recording image data;

a delete instruction device that instructs so as to delete image data recorded in the storage medium connected to the connecting device;

a medium detector that detects if the storage medium connected to the connecting device is a storage medium limiting overwrite; and

a notification device that notifies that deletion of the image data cannot get an increase in memory capacity when the medium detector detects that the storage medium limiting overwrite is connected to the connecting device.

46. An image storage apparatus comprising:

a connecting device that connects to a storage medium recording image data;

a delete instruction device that instructs so as to delete image data recorded in the storage medium connected to the connecting device;

a medium detector that detects if the storage medium connected to the connecting device is a storage medium limiting overwrite;

an image storage memory; and

a delete control device that controls so as to receive image data recorded in the storage medium connected to the connecting device, store the received image data in the image

storage memory and delete the image data of the storage medium automatically after storage thereof, wherein:

when the medium detector detects that the storage medium limiting overwrite is connected to the connecting device, the delete control device halts automatic deletion of the image data after storage thereof.

47. The image storage apparatus according to claim 46, wherein:

when the medium detector detects that the storage medium limiting overwrite is connected to the connecting device, the delete control device prohibits the image data from being deleted automatically after storage thereof.

48. The image storage apparatus according to claim 46, wherein:

when the medium detector detects that the storage medium limiting overwrite is connected to the connecting device, the delete control device inquires whether the image data is deleted.

49. A control program comprising following steps executed on a computer:

a step of instructing so as to delete image data recorded in a storage medium connected to a connecting device;

a step of detecting whether the storage medium connected to a connecting device is a storage medium limiting overwrite;

a step of receiving image data recorded in the storage medium connected to the connecting device and storing the received image data in the image storage memory;

a step of deleting the image data of the storage medium automatically after storage of the image data; and,

a step of halting automatic deletion of the image data after storage thereof when it is detected that the storage medium limiting overwrite is connected to the connecting device.

50. A storage medium that is capable of being inserted into a digital camera implementing a different function by detecting a kind of a storage medium and that also limits overwrite comprising:

an information device that changes a function of the digital camera.

51. The storage medium according to claim 50, wherein:

the information device is property information of the storage medium to be inputted into the digital camera.

52. The storage medium according to claim 50, wherein:

the information device is a connector device that has a plurality of connectors capable of being connected to the digital camera and the connector device is different from a

connector device of an overwritable storage medium.

53. The storage medium according to claim 50, wherein:

the information device is an external shape of the storage medium interfacing with the digital camera and is different from an external shape of an overwritable storage medium.